KLS martin GROUP

Alveolar Ridge Distraction

Product Overview

www.klsmartin.com

Be on the right TRACK!

The indications for alveolar ridge augmentation are acquired or congenital alveolar defects. Common aetiologies of acquired alveolar bone loss are post-extraction, traumatic avulsion of teeth, periodontal disease or after tumour resections.

Distraction in oral and cranio-maxillofacial surgery

The nature of the deficiency may present an obstacle to ideal implant positioning by compromising aesthetic and prosthetic needs.

Based on Ilizarov's technique and the pioneering work of Hidding and Zöller, vertical distraction of the alveolar ridge by especially designed distraction devices has become a state-of-the-art method for the successful treatment of such bone defects. It is considered a highly valuable technique in cases of premature teeth loss due to periodontal disease or injury, as it significantly improves the basis for substance meaning more support and better fixation of dental implants. It also ensures better aesthetic results compared to most conventional augmentation techniques.

The TRACK distractor family now provides a complete range of individual devices for the treatment of smaller partial defects of the maxillary and mandibular alveolar ridge up to the highly atrophic edentulous mandible with a huge number of clinical cases already treated all over the world. The distraction process naturally varies from patient to patient. As a rule, the entire distraction process – from insertion to removal of the device – can be completed within a period of 3-4 months.

Upon inserting the distractor, an initial latency period of 5-7 days is typically required. In the following phase, the distractor is pulled apart approx. 1 mm per day, using an activation key.

As soon as the desired bone height is achieved, the consolidation phase sets in, extending over approx. 8-12 weeks. During this period, the distractor is left in place in order to stabilize the new (but still soft) bone. When the distractor is finally removed, the dental implants are inserted simultaneously.

In this product leaflet, you will be able to find vertical distraction devices for all possible indications including their respective instruments as well as storage modules for processing all in one set.

A tiny tool, with a great impact!

What are the advantages of alveolar process distraction?

This type of distraction actually offers quite a number of advantages, compared to traditional bone reconstruction techniques:

- There is no need to harvest bone substance from other body regions in order to graft it onto the mandible or maxilla
- No need to use artificial (bone substitute) material
- Distraction not only forms new bone substance but also increases mucosa growth, thus achieving better aesthetic results
- No further soft-tissue corrections required in most cases
- More or less painless procedure

Developed in cooperation with

Prof. Dr. Dr. J. Hidding
Dept. of Maxillofacial Surgery
Bethesda Hospital Mönchengladbach, Germany

Prof. Dr. Dr. J. E. Zöller, Dr. Dr. F. Lazar
Dept. of Maxillofacial Surgery
University Hospital Köln, Germany

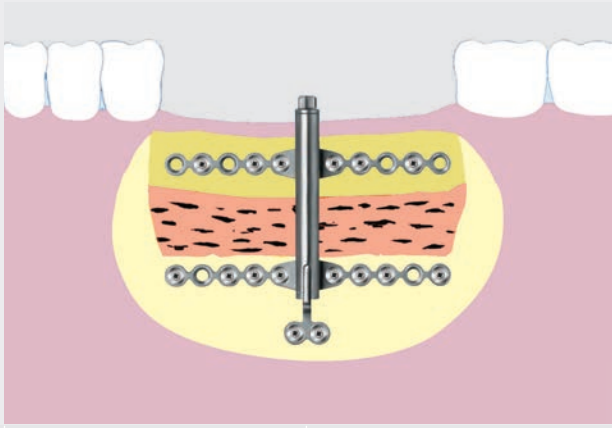
Indications

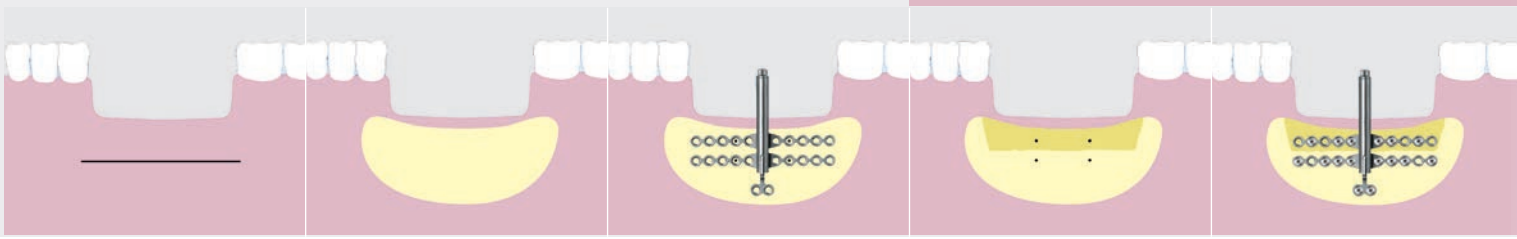
- Partial defects of the mandibular and maxillar alveolar process
- Periodontal diseases with severe localized bone loss
- Localized atrophy of the alveolar ridge

Contra-Indications

- Cases of in-adequate bone volume
- Cases of in-adequate bone density
- Severe osteoporosis
- General contra-indication is the severe diseased system

Application step by step





1. Depending on the defect size and localization, general or local anaesthesia should be administered.

2. After a horizontal incision in the vestibulum, a buccal mucoperiosteal flap elevation is performed exposing the lateral cortex, without elevation of the crestal mucosa.

3. The vertical distractor is placed into the desired position. The microplates are now bent carefully to the mandibular shape using the bending pliers 25-486-13-07 and 51-525-76-04 or 51-520-70-07 or 51-530-70-07. Check the correct vector of distraction and avoid any occlusial inter-ference.

4. In this position one hole is drilled on either side of the microplates and a monocortical micro screw (4 or 5 mm) is inserted.

5. The distractor is removed again and the osteotomy line is then marked with a Lindemann burr.

6. Two vertical osteotomies are carried out using a recipro-cating saw. A third horizontal osteotomy is performed apically joining the vertical component. In this manner an alveolar segmental osteotomy is achieved.

7. The segment is now entirely mobilized using fine chisels lingually. Care has to be taken of the mandibular nerve.

8. The segmental osteotomy is carried out immediately adjacent to neighbouring teeth in order to accomplish full defect coverage without damage to periodontal structure.

9. The distractor is then refixed in the same position with the screws previously used.

10. Additional screws are now inserted after drilling on the caudal and cranial side. Check and adjust the vector before placing two screws into the caudal vector stabilizing plate.

11. The function of the distractor is finally checked as well as a possi-ble interference of the distraction rod with the occlusion.

12. The soft tissue is closed. X-ray control postopera-tively is recom-mended.

13. After 5-7 days the distraction can start with approximately 1 mm per day (for the number of turns, please refer to the patient screwdriver).

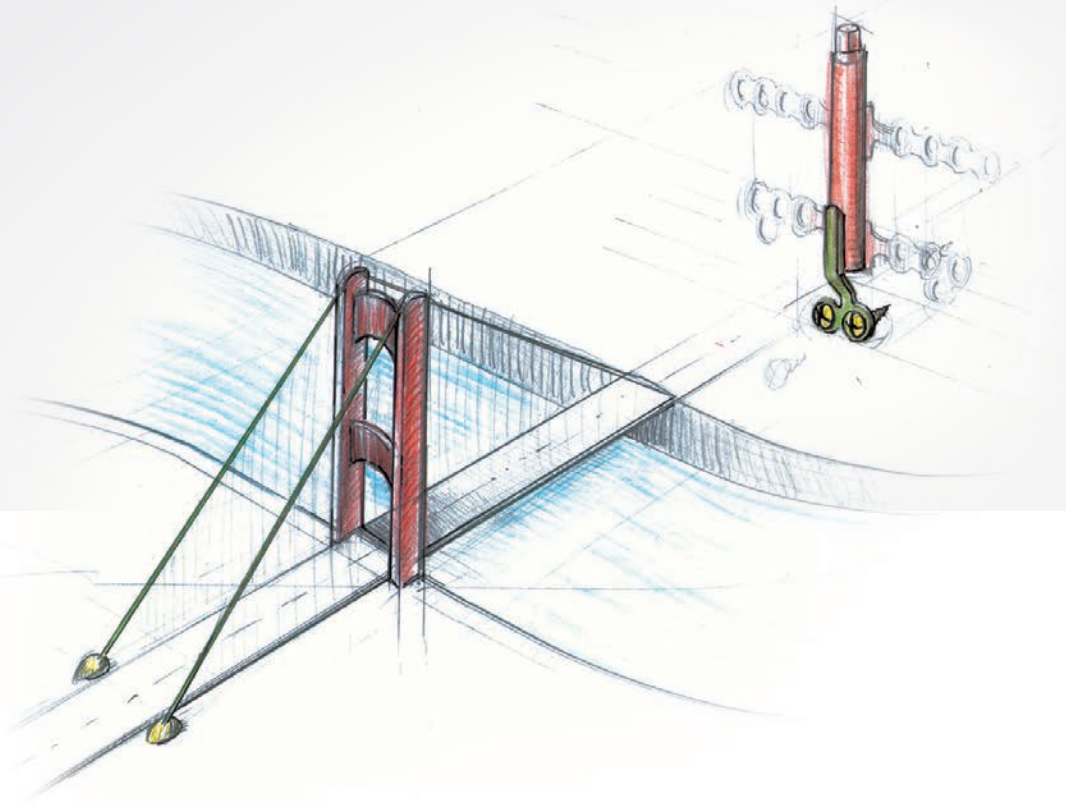
14. A retention period of approximately 6 weeks is recommended.

15. Removal of the distractor can be performed, normally under local anaesthesia.

16. Implant insertion should be considered at the same time as dis-tractor removal takes place.

The distractor is designed for single use only!

Small plate, great effect!



As evidenced by scientific publications and reports, lingual or palatal distraction vector tilts occurring during the distraction phase are among the most frequent complications in alveolar process distraction.

This unwelcome situation can be reliably prevented by using an additional plate at the bottom end of the distractor.

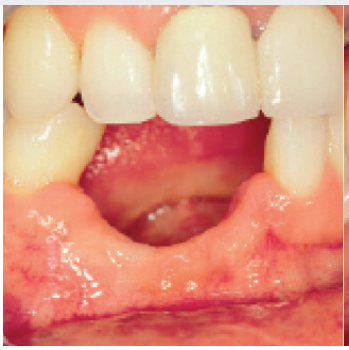
The stabilization effect thus achieved can best be illustrated comparing it to a bridge. The pier supporting the bridge corresponds to the distraction body frequently prone to tilting due to tissue pull. In like manner, the pier's stay ropes anchored in the ground correspond to the tension plate that compensates such forces.

Biomechanical test series have shown that the TRACK with an extra plate increases its stability and tilting resistance threefold, compared with TRACK models employing no extra plate.

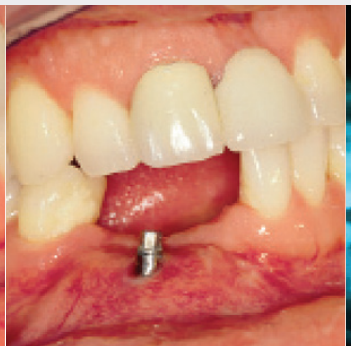
TRACK 1.0 mm

Indications

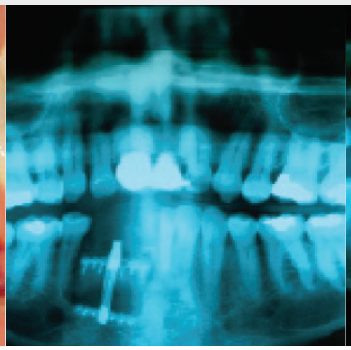
- smaller partial defects of the maxillar and mandibular alveolar ridge



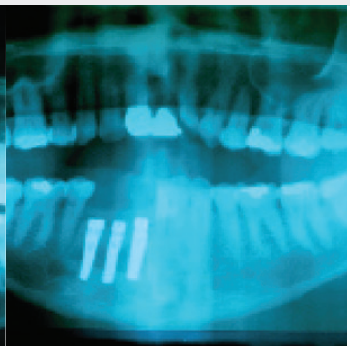
Defect, pre-operative



Distractor during the consolidation phase



Consolidation phase



After implant placement

1/1

51-525-15-09

TRACK 1.0

distraction length 15 mm

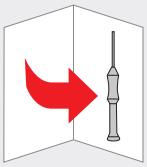
Ti 1

Please note:
To avoid plate breakage during adaptation, always use the combination of bending pliers 25-486-13-07 and 51-525-76-04 or 51-520-70-07 or 51-530-70-07.

Screws and twist drills for TRACK 1.0 mm

Icon explanations

- St Steel
- Ti Titanium
- 1 Units/pack
- Centre Drive®
- maxDrive®
- maxDrive® Hex Head
- Dental attachment
- J-notch attachment



Screwdrivers and blades see page 25

Centre Drive® 1.0 mm — Ti 5

Micro Screws — self-retaining

Ø x Length	Centre Drive®
1.0 x 4 mm	25-660-04-09
1.0 x 5 mm	25-660-05-09
1.0 x 6 mm	25-660-06-09

Emergency Screws — self-retaining

Ø x Length	Centre Drive®
1.2 x 5 mm	25-661-05-09

maxDrive® Hex Head 1.2 mm — Ti 1

Drill-Free Hex Head Screws

Ø x Length	Thread Length	maxDrive®
1.2 x 7 mm	5 mm	50-347-07-09
1.2 x 9 mm	7 mm	50-347-09-09

Screwdriver blades for 1.2-mm screws — St 1

for screwdriver handle 25-402-99-07

maxDrive®
25-489-97-07

Drill Bits — St

Drill Bits (J-Notch Attachment)

Ø x Length	Stop	Item No.	
0.7 x 50 mm	5 mm	25-454-05-07	5
0.7 x 50 mm	5 mm	25-454-05-91	1
0.7 x 50 mm	7mm	25-454-07-07	5
0.7 x 50 mm	7 mm	25-454-07-91	1
for dense bone			
0.8 x 50 mm	5 mm	25-457-05-07	5
0.8 x 50 mm	5 mm	25-457-05-91	1
0.8 x 50 mm	7 mm	25-457-07-91	1

Drill bits (Dental Attachment)

Ø x Length	Stop	Item No.	
0.8 x 50 mm		26-153-08-07	1
0.7 x 19 mm	5 mm	50-916-05-07	1
0.7 x 21 mm	7 mm	50-916-07-07	5

Note:

Hex head screws lessen the difficulty of removal if there is bony overgrowth or the screw head is difficult to see during removal. Although hex head screws are drill free, predrilling may be required depending on the specific patient's bone.

The following applies to distractors with ratchet:

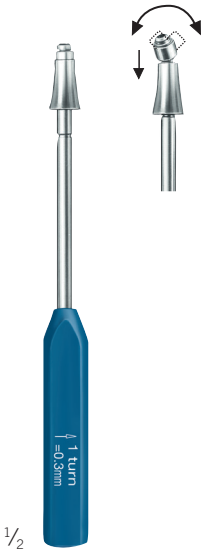
The clearance of the distractor must be checked in the extended state. It must be ensured that the hex head screws do not collide with the ratchet device.

Instruments for TRACK 1.0 mm

½

51-525-85-07
Patient screwdriver, straight

St 1



½

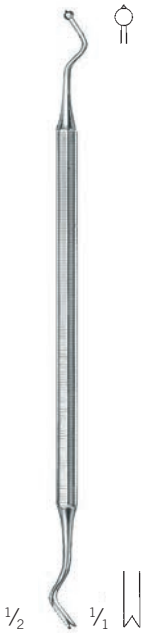
51-525-90-07
Patient screwdriver, combination straight + angled

St 1

½

51-525-95-07
Patient screwdriver, micro

St 1



½ 1/1

25-435-10-07
16 cm/6 ¼"
Lindorf
Plate holding forceps

St 1

½

51-525-80-07
15.5 cm/6"
Plate holding forceps, curved

St 1

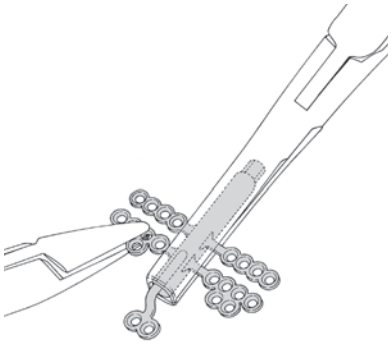
Icon explanations

St Steel

Ti Titanium

1 Units/pack

TC GOLD TC Instruments with hard-metal inserts



25-486-13-07
13 cm/5 ½"
Modelling plier

St 1 1
TC GOLD

51-525-76-04
13 cm/5 ½"
Distractor holding plier for TRACK 1.0 mm

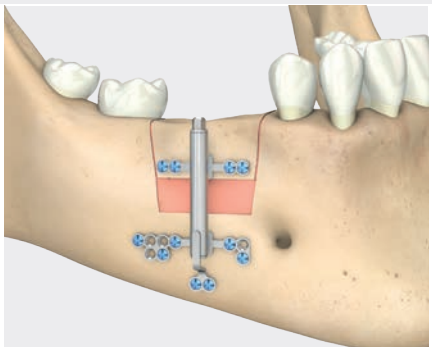
St 1

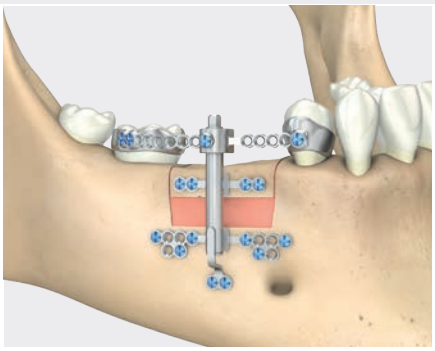
25-490-11-07
12 cm/4 ¾"
Plate cutter

St 1

TRACK 1Plus

Indications
- up to 3-4 teeth (35 mm) segments of the alveolar ridge





TRACK 1.0 with optional support plate 51-525-40-09

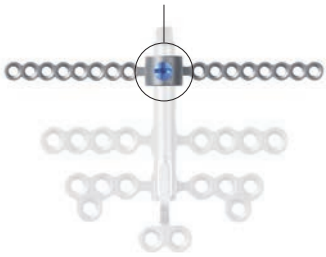
51-524-12-09
TRACK 1Plus
distraction length 12 mm

Ti 1

51-524-15-09
TRACK 1Plus
distraction length 15 mm

Ti 1

1.5-mm maxDrive® locking screw



51-525-40-09
Optional support plate for
TRACK 1.0 and TRACK 1Plus

Ti 1

The additional support plate of the TRACK 1.0 or TRACK 1 plus distractor will be fixed by 1.5-mm maxDrive® screws.

For screws and drill bits see page 9.

Please note:
To avoid plate breakage during adaptation, always use the combination of bending pliers 25-486-13-07 and 51-525-76-04 or 51-520-70-07 or 51-530-70-07.

TRACK 1.5 mm

Indications

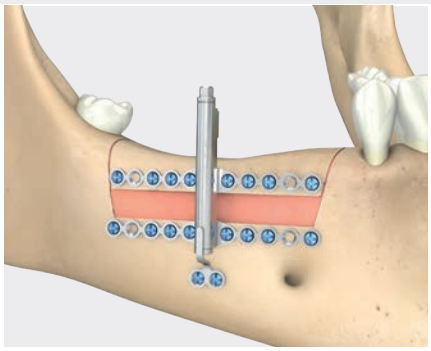
- wide atrophies up to 60 mm width

Icon explanations

St Steel

Ti Titanium

1 Units/pack



51-520-15-09

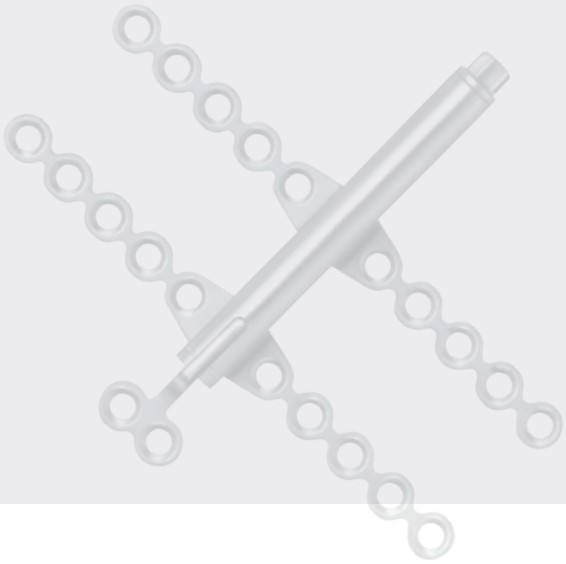
TRACK 1.5

distraction length 15 mm

Ti 1

Please note:
To avoid plate breakage during adaptation, always use the combination of bending pliers 25-486-13-07 and 51-525-76-04 or 51-520-70-07 or 51-530-70-07.

Screws and twist drills
TRACK 1Plus and TRACK 1.5 mm



maxDrive® 1.5 mm

Ti 5

Micro Screws

self-retaining

Ø x Length	maxDrive®
1.5 x 4 mm	25-875-04-09
1.5 x 5 mm	25-875-05-09
1.5 x 6 mm	25-875-06-09
1.5 x 7 mm	25-875-07-09

Emergency Screws

self-retaining

Ø x Length	maxDrive®
1.8 x 4 mm	25-876-04-09
1.8 x 5 mm	25-876-05-09
1.8 x 7 mm	25-876-07-09

Drill-Free Screws

self-retaining

Ø x Length	maxDrive®
1.5 x 4 mm	25-878-04-09
1.5 x 5 mm	25-878-05-09
1.5 x 6 mm	25-878-06-09

maxDrive® Hex Head 1.5 mm

Ti 1

Drill-Free Hex Head Screws

Ø x Length	Thread Length	maxDrive®
1.5 x 7 mm	5 mm	50-348-07-09
1.5 x 9 mm	7 mm	50-348-09-09

Screwdriver Blades for 1.5-mm Screws

for screwdriver handle 25-407-03-04

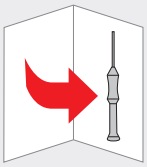
maxDrive®	
25-438-97-07	

Note:

Hex head screws lessen the difficulty of removal if there is bony overgrowth or the screw head is difficult to see during removal. Although hex head screws are drill free, predrilling may be required depending on the specific patient's bone.

The following applies to distractors with ratchet:

The clearance of the distractor must be checked in the extended state. It must be ensured that the hex head screws do not collide with the ratchet device.



Screwdrivers and blades see page 25

Icon explanations

- St Steel
- Ti Titanium
- 1 Units/pack
- Centre Drive®
- maxDrive®
- maxDrive® Hex Head
- Dental attachment
- J-notch attachment
- Cylindrical attachment

Centre Drive® 1.5 mm Ti 5

Micro Screws — self-retaining

Ø x Length	Centre Drive®
1.5 x 4 mm	25-665-04-09
1.5 x 5 mm	25-665-05-09
1.5 x 6 mm	25-665-06-09
1.5 x 7 mm	25-665-07-09

Emergency Screws — self-retaining

Ø x Length	Centre Drive®
1.8 x 5 mm	25-666-05-09
1.8 x 7 mm	25-666-07-09

Drill-Free-Screws — self-retaining

Ø x Length	Centre Drive®
1.5 x 4 mm	25-668-04-09
1.5 x 5 mm	25-668-05-09
1.5 x 6 mm	25-668-06-09

Drill Bits St

Drill Bits (J-Notch Attachment)

Ø x Length	Stop	Item No.	
1.1 x 50 mm		25-452-00-07	5
1.1 x 50 mm		25-452-00-91	1
1.1 x 50 mm	5 mm	25-452-05-07	5
1.1 x 50 mm	5 mm	25-452-05-91	1
1.1 x 50 mm	7 mm	25-452-07-07	5
1.1 x 50 mm	7 mm	25-452-07-91	1

Drill Bits for angled Handpiece (Dental Attachment)

Ø x Length	Stop	Item No.	
1.1 x 20 mm	7 mm	50-920-07-07	1

Milling Cutter (Cylindric Attachment)

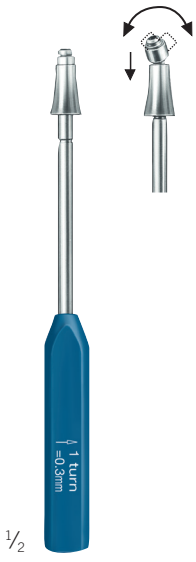
Ø x Length	Stop	Item No.	
1.1 x 45 mm	11 mm	38-051-45-0	1

Instruments for TRACK 1Plus and TRACK 1.5 mm

½

51-525-85-07
Patient screwdriver, straight, for TRACK 1Plus

St 1



½

51-525-90-07
Patient screwdriver, combination straight + angled, for TRACK 1Plus

St 1

½

51-525-95-07
Patient screwdriver, micro, for TRACK 1Plus

St 1

½

51-500-90-07
Patient screwdriver, straight, for TRACK 1.5 mm

St 1

½

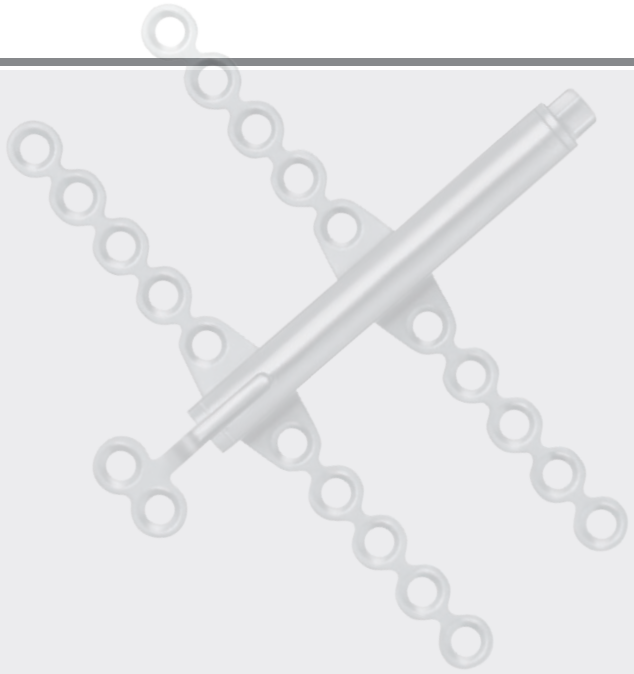
51-505-90-07
Patient screwdriver, angled, for TRACK 1.5 mm

St 1

½

51-520-95-07
Patient screwdriver, micro, for TRACK 1.5 mm

St 1



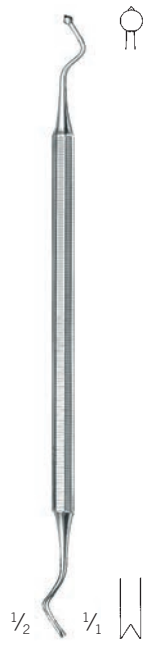
Icon explanations

St Steel

Ti Titanium

1 Units/pack

TC GOLD TC Instruments with hard-metal inserts

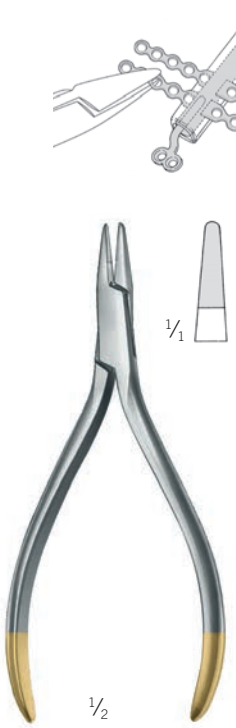


25-435-15-07
18 cm/7"
Lindorf
Plate holding forceps

St 1

51-525-80-07
15.5 cm/6"
Plate holding
forceps, curved

St 1



25-486-13-07
13 cm/5 ½"
Modelling plier

St 1

TC GOLD

51-525-76-04
13 cm/5 ½"
Distractor holding plier
for TRACK 1Plus

St 1

51-520-70-07
13 cm/5 ½"
Distractor holding plier
for TRACK 1.5 mm

St 1

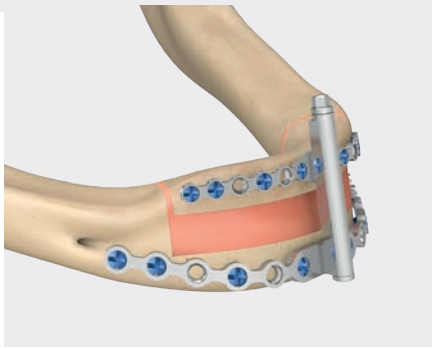
25-490-11-07
12 cm/4 ⅓"
Plate cutter

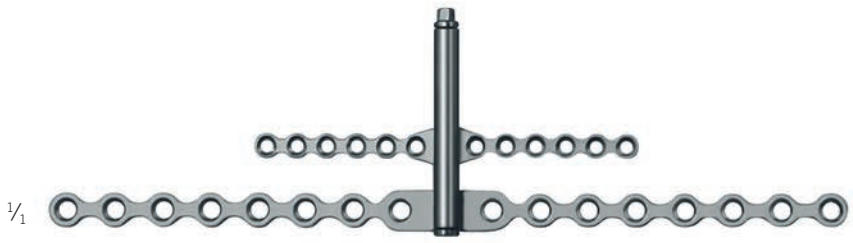
St 1

TRACK 2.0

Indications

- highly atrophic and edentulous mandibles in the front section





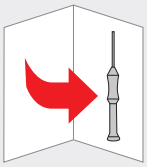
1/1

51-530-15-09
TRACK 2.0
distraction length 15 mm

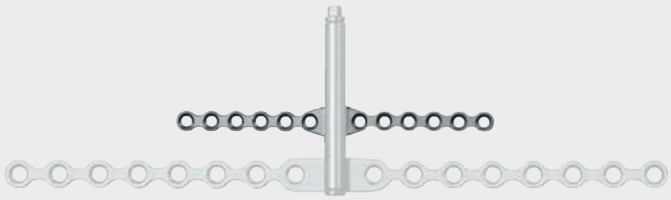
Ti 1

Please note:
To avoid plate breakage during adaptation, always use the combination of bending pliers 25-486-13-07 and 51-525-76-04 or 51-520-70-07 or 51-530-70-07.

1.5 mm screws for TRACK 2.0 for transport plate



Screwdrivers and blades see page 25



Icon explanations

- St Steel
- Ti Titanium
- 1 Units/pack
- Centre Drive®
- maxDrive®
- maxDrive® Hex Head

maxDrive® 1.5 mm

Micro Screws — self-retaining

Ø x Length	maxDrive®
1.5 x 4 mm	25-875-04-09
1.5 x 5 mm	25-875-05-09
1.5 x 6 mm	25-875-06-09
1.5 x 7 mm	25-875-07-09

Emergency Screws — self-retaining

Ø x Length	maxDrive®
1.8 x 4 mm	25-876-04-09
1.8 x 5 mm	25-876-05-09
1.8 x 7 mm	25-876-07-09

Drill-Free Screws — self-retaining

Ø x Length	maxDrive®
1.5 x 4 mm	25-878-04-09
1.5 x 5 mm	25-878-05-09
1.5 x 6 mm	25-878-06-09

maxDrive® Hex Head 1.5 mm

Drill-Free Hex Head Screws

Ø x Length	Thread Length	maxDrive®
1.5 x 7 mm	5 mm	50-348-07-09
1.5 x 9 mm	7 mm	50-348-09-09

Screwdriver Blades for 1.5-mm Screws

for screwdriver handle 25-407-03-04

maxDrive Drive®	
25-438-97-07	

Note:

Hex head screws lessen the difficulty of removal if there is bony overgrowth or the screw head is difficult to see during removal. Although hex head screws are drill free, predrilling may be required depending on the specific patient's bone.

The following applies to distractors with ratchet:

The clearance of the distractor must be checked in the extended state. It must be ensured that the hex head screws do not collide with the ratchet device.

Centre Drive® 1.5 mm

Micro Screws — self-retaining

Ø x Length	Centre Drive®
1.5 x 4 mm	25-665-04-09
1.5 x 5 mm	25-665-05-09
1.5 x 6 mm	25-665-06-09
1.5 x 7 mm	25-665-07-09

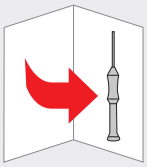
Emergency Screws — self-retaining

Ø x Length	Centre Drive®
1.8 x 5 mm	25-666-05-09
1.8 x 7 mm	25-666-07-09

Drill-Free Screws — self-retaining

Ø x Length	Centre Drive®
1.5 x 4 mm	25-668-04-09
1.5 x 5 mm	25-668-05-09
1.5 x 6 mm	25-668-06-09

2.0 mm screws for TRACK 2.0 for base plate



Screwdrivers and blades see page 25

maxDrive® 2.0 mm

Mini Screws — self-retaining

Ø x Length	maxDrive®
2.0 x 5 mm	25-872-05-09
2.0 x 6 mm	25-872-06-09
2.0 x 7 mm	25-872-07-09

Emergency Screws — self-retaining

Ø x Length	maxDrive®
2.3 x 5 mm	25-873-45-09
2.3 x 7 mm	25-873-47-09

Drill-Free Screws — self-retaining

Ø x Length	maxDrive®
2.0 x 5 mm	25-879-05-09
2.0 x 6 mm	25-879-06-09
2.0 x 7 mm	25-879-07-09

Centre Drive® 2.0 mm

Mini Screws — self-retaining

Ø x Length	Centre Drive®
2.0 x 5 mm	25-662-05-09
2.0 x 6 mm	25-662-06-09
2.0 x 7 mm	25-662-07-09

Emergency Screws — self-retaining

Ø x Length	Centre Drive®
2.3 x 5 mm	25-663-45-09
2.3 x 7 mm	25-663-47-09

Drill-Free Screws — self-retaining

Ø x Length	Centre Drive®
2.0 x 5 mm	25-669-05-09
2.0 x 6 mm	25-669-06-09

Twist drills
1.5 and 2.0 mm screws

Icon explanations

- St Steel
- Ti Titanium
- 1 Units/pack
- Centre Drive®
- maxDrive®
- Dental attachment
- J-notch attachment
- Cylindrical attachment

Drill Bits for 1.5 Screws

Drill Bits (J-Notch Attachment)

Ø x Length	Stop	Item No.	
1.1 x 50 mm		25-452-00-07	5
1.1 x 50 mm		25-452-00-91	1
1.1 x 50 mm	5 mm	25-452-05-07	5
1.1 x 50 mm	5 mm	25-452-05-91	1
1.1 x 50 mm	7 mm	25-452-07-07	5
1.1 x 50 mm	7 mm	25-452-07-91	1

Drill Bits for angled Handpiece (Dental Attachment)

Ø x Length	Stop	Item No.	
1.1 x 20 mm	7 mm	50-920-07-07	1

Milling Cutter (Dental Attachment)

Ø x Length	Stop	Item No.	
1.1 x 45 mm	11 mm	38-051-45-0	1

Drill Bits for 2.0 Screws

Drill Bits (J-Notch Attachment)

Ø x Length	Stop	Item No.	
1.1 x 50 mm		25-449-00-07	5
1.1 x 50 mm		25-449-00-91	1
1.1 x 50 mm	5 mm	25-449-05-07	5
1.1 x 50 mm	5 mm	25-449-05-91	1
1.1 x 50 mm	7 mm	25-449-07-07	5
1.1 x 50 mm	7 mm	25-449-07-91	1

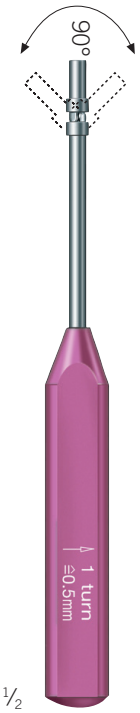
Drill Bits for angled Handpiece (Dental Attachment)

Ø x Length	Stop	Item No.	
1.5 x 20 mm	7 mm	50-924-07-07	1

Instruments for TRACK 2.0 mm

½

51-500-90-07
Patient screwdriver,
straight,
for TRACK 1.5 mm
St 1



½

51-505-90-07
Patient screwdriver,
angled,
for TRACK 1.5 mm
St 1

½

51-520-95-07
Patient screwdriver,
micro,
for TRACK 1.5 mm
St 1

½

25-435-15-07
18 cm/7"
Lindorf,
Plate holding forceps
St 1

½

51-525-80-07
15.5 cm/6"
Plate holding forceps,
curved
St 1

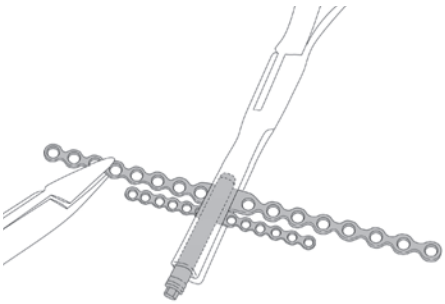
Icon explanations

St Steel

Ti Titanium

1 Units/pack

TC GOLD TC Instruments with hard-metal inserts



25-486-13-07
13 cm/5 ½"
Modelling plier

St 1
TC GOLD

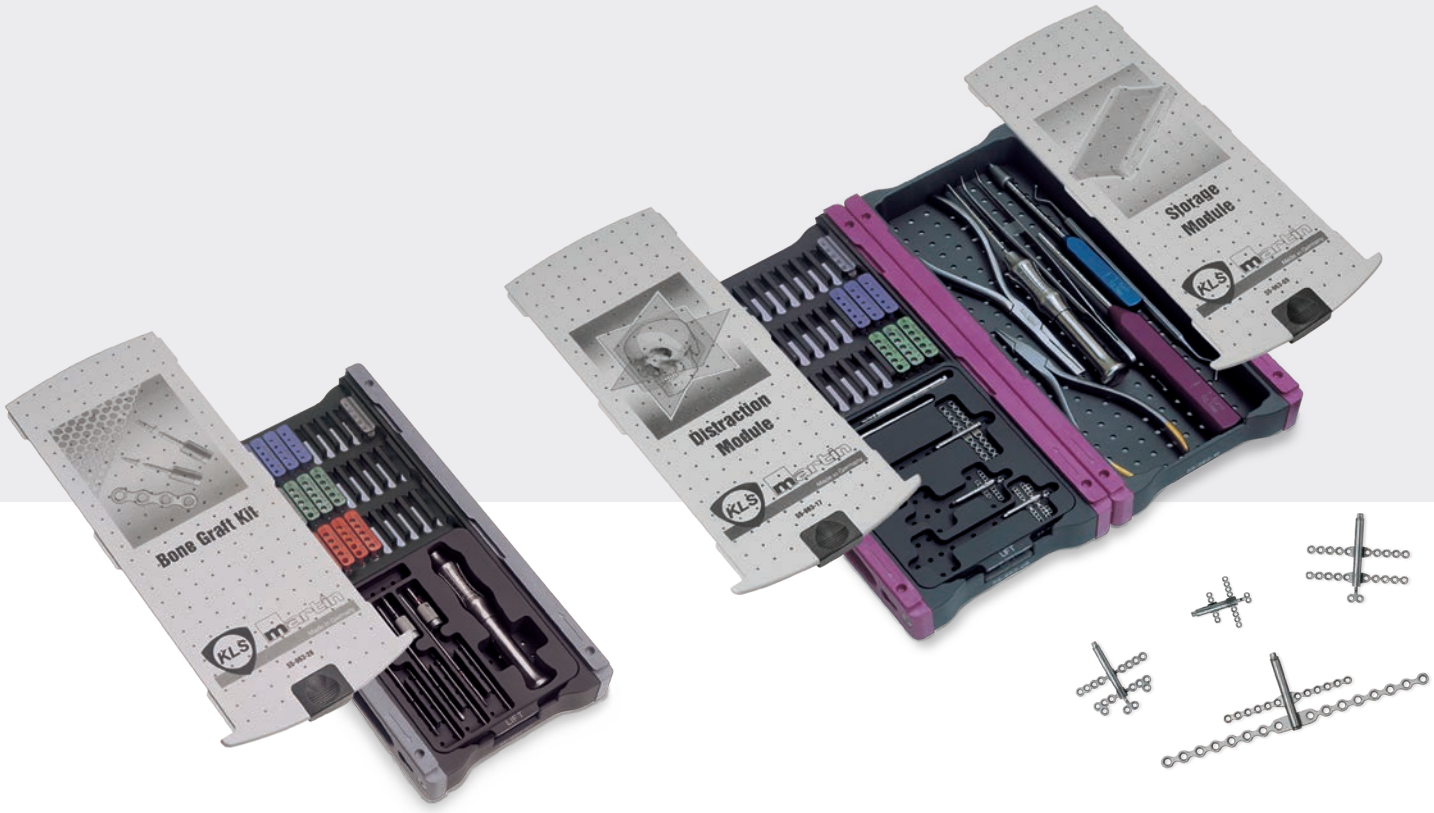
51-530-70-07
13 cm/5 ½"
Distractor holding plier
for TRACK 2.0 mm

St 1

25-420-16-07
16 cm/6 ½"
Plate cutter

St 1
TC GOLD

Storage modules



Bone graft kit

Category	Scope	Item Number
Bone graft kit	complete	50-700-00-04
consisting of:		
Insert module, grey	separate	55-962-07-04
Insert bone graft kit	separate	55-964-28-04
Lid bone graft kit	separate	55-963-28-04

Distraction module

Category	Scope	Item Number
Insert module, purple	separate	55-962-08-04
Storage module, purple	separate	55-962-18-04
Lid for distraction module	separate	55-963-17-04
Lid storage module	separate	55-963-09-04
Insert f. TRACK distractors	separate	55-964-23-04
Insert universal	separate	55-964-17-04

Screwdrivers and blades

Screwdrivers and blades

		25-480-99-07	25-402-99-07	25-407-03-04	25-406-99-07
25-492-98-07	1.0 mm	x			
25-428-98-07	1.0 mm		x		
25-431-98-07	1.5 mm	x			
25-430-98-07	1.5 mm		x		
25-489-97-07	1.5 mm		x		
25-438-97-07	1.5 mm			x	x
25-434-98-07	2.0/2.3 mm		x		
25-540-98-07	2.0/2.3 mm				x
25-491-97-07	2.0/2.3 mm		x		
25-486-97-07	2.0/2.3 mm			x	x

Bone graft screwdrivers

25-422-10-07	1.0 mm
25-422-15-07	1.5 mm
25-424-15-07	1.5 mm
25-422-20-07	2.0 mm/2.3 mm
25-424-20-07	2.0 mm/2.3 mm

Going deeper ...
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Patient Chart –
Distraction Osteogenesis

The natural way ...
... for jawbone reconstruction

Distraction – a new procedure for achieving perfect results in implantology

Operated on: _____

Start of distraction: _____

Rotations per day: _____

Questions? – Telephone No.: _____

Please observe arrow direction when operating the distractor!

TRACK 1.0 / 1 Plus: 0.3 mm / rotation

TRACK 1.5 / 2.0: 0.5 mm / rotation

Further Doctor's orders: _____

Day		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rotations	1															
	2															
	3															

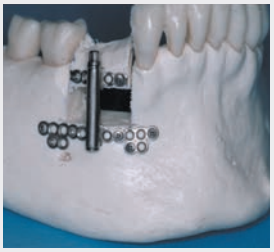
The natural way for jawbone reconstruction

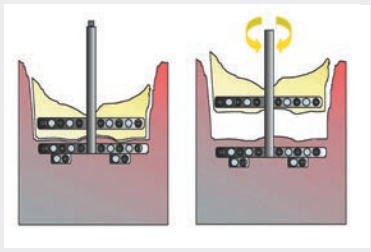
What does “distraction” mean?

Distraction osteogenesis is a technique for lengthening or reconstructing bones that utilizes the self-healing forces of the human body.
In this process, new bone tissue (so-called callus) starts forming between two separate bone pieces as they are slowly pulled apart.
To pull the two bone sections apart, a small distraction apparatus is employed, which is fitted to the jawbone and needs to be activated by you on a daily basis.

Distraction involves different phases, to be such as:

Latency phase:	Means the time period between the surgical intervention and the beginning of the distraction.
Distraction phase:	The time period during which distraction takes place at a rate of approx. 1 mm per day.
Consolidation phase:	The time period required for the bone to heal and ossify. This phase is completed when the distractor is removed.





What does “alveolar process distraction” mean – and how does it work?

Alveolar process distraction achieves the vertical lengthening (reconstruction) of the maxilla or mandible. This represents a highly valuable technique in cases of premature teeth loss due to periodontal disease or injury, as it significantly improves the basis for subsequent prosthetic treatment. In any case, more bone substance means more support and better fixation of dental implants and also ensures better aesthetic results.

How long will the distraction process take?

This naturally varies from patient to patient. As a rule, the entire distraction process – from insertion to removal of the device – can be completed within a period of 3-4 months.
Upon inserting the distractor, an initial latency period of 5-7 days is typically required. In the following distraction phase, the distractor is pulled apart approx. 1 mm per day, using an activation key.

As soon as the desired bone height is achieved, the consolidation phase sets in, extending over approx. 8-12 weeks. During this period, the distractor is left in place in order to stabilize the new (but still soft) bone. When the distractor is finally removed, the dental implants are inserted simultaneously.

Make sure you always follow your doctor’s instructions, as these could differ from this general, rough-and-ready description.

What are the advantages of alveolar process distraction?

This type of distraction actually offers quite a number of advantages, compared to traditional bone reconstruction techniques:

- There is no need to harvest bone substance from other body regions in order to graft it onto the mandible or maxilla.
- No need to use artificial (bone substitute) material.
- Distraction not only forms new bone substance but also increases mucosa growth, thus achieving better aesthetic results.
- No further soft-tissue corrections required in most cases.
- More or less painless procedure.

What needs to be observed during the therapy?

- Always comply fully with your doctor’s instructions.
- Be sure to follow a soft diet during the entire distraction period.
- Careful oral hygiene is indicated during the entire treatment.
- Smoking can impair distraction results. So never smoke during the treatment!

Who can benefit from alveolar process distraction?

Patients of all age groups suffering from a lack of bone substance in the maxilla or mandible; patients with orthodontic conditions such as ankylosed teeth or open bite.

For the following patient groups, a distraction failure cannot be ruled out:

- diabetics
- patients with osteoporosis
- patients with an immune deficiency
- patients having undergone radiation treatment

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